PSC

LETTER OF TRANSMITTAL

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To Lori Muller
77 West Jackson Blvd.
Chicago IL 60604

Date 12-12-08

Project Champaign MGP

Project No.

1. ( ) FOR REVIEW & COMMENT
2. ( ) FOR APPROVAL
3. ( ) AS REQUESTED
4. ( ) FOR YOUR USE
5. ( )

Enclosed ( ) / Under separate cover ( )

NO. OF COPIES	DESCRIPTION
1	Champaign MGP Remedial Objectives Report (Paper)
1	Champaign MGP Remedial Action Plan (Paper)
1	CD - ROR
1	CD - RAP

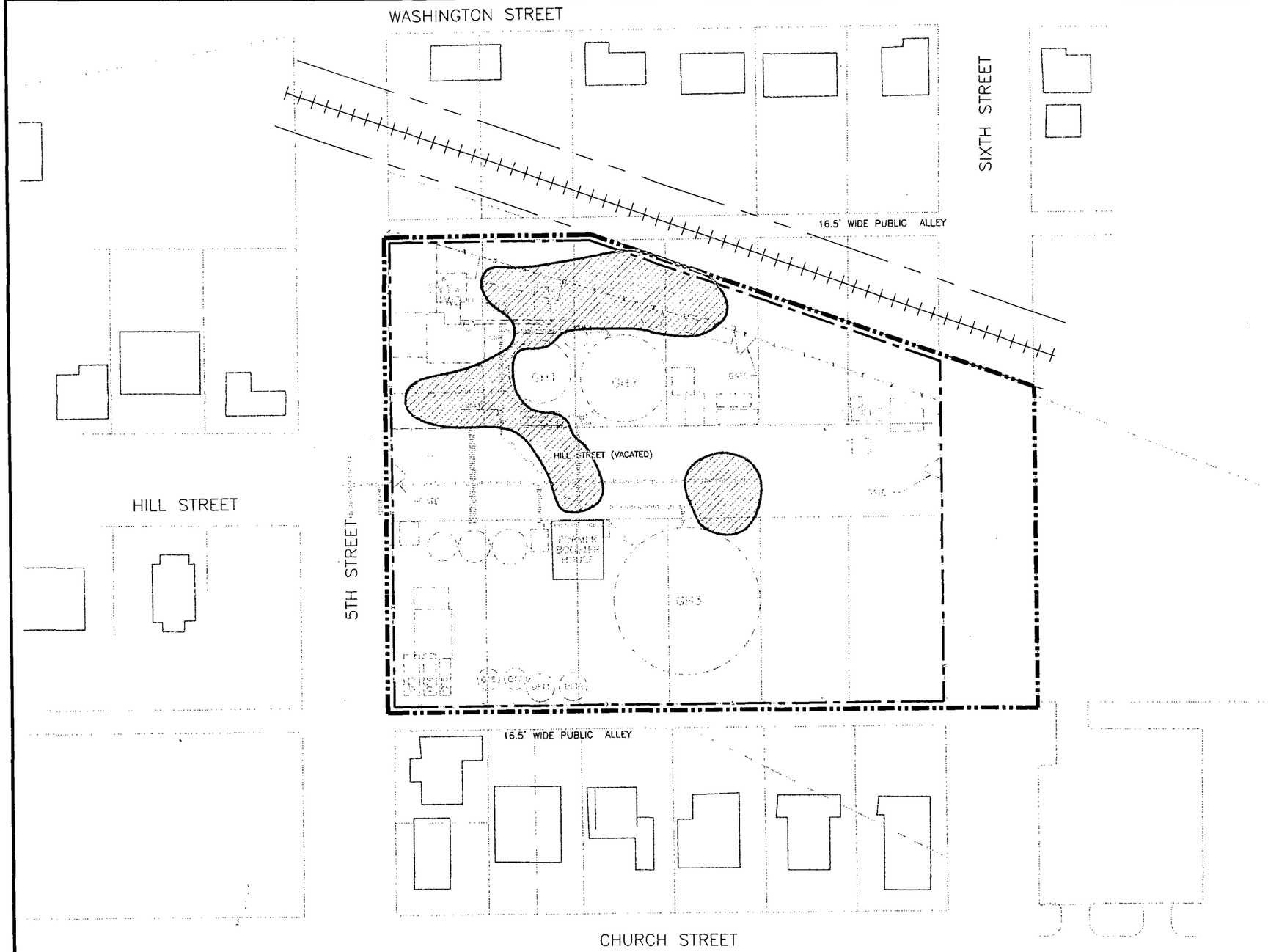
REMARKS:

Thank you.

COPIES FORWARDED TO:

FROM L. Hoosier

TITLE



LEGEND

- HISTORICAL MANUFACTURED GAS PLANT STRUCTURES (APPROXIMATE)
- FORMER GAS PLANT PIPING (APPROXIMATE)
- EXISTING STRUCTURES (APPROXIMATE)
- CURRENT AMERENIP PROPERTY BOUNDARY
- REMEDIATION SITE BOUNDARY
- FENCE
- INDOOR INHALATION EXPOSURE PATHWAY HORIZONTAL EXTENT EXCEEDING TIER 1 ROs

NOTE: 1. The historical manufactured gas plant structures are a composite from Sanborn Fire Insurance maps and historical Ameren site plans. The exact locations of the features are not known. Structures and buildings may have served multiple purposes during the operation of the plant.

2. Tier 1 RO exceedances are shown for On-Site only. Off-Site exceedances exist beyond the Site property boundary and are addressed individually with separate RORs and RAPs.

SOURCE: The source for the propperty boundary survey is Vegrzyn, Sarver, and Associates.

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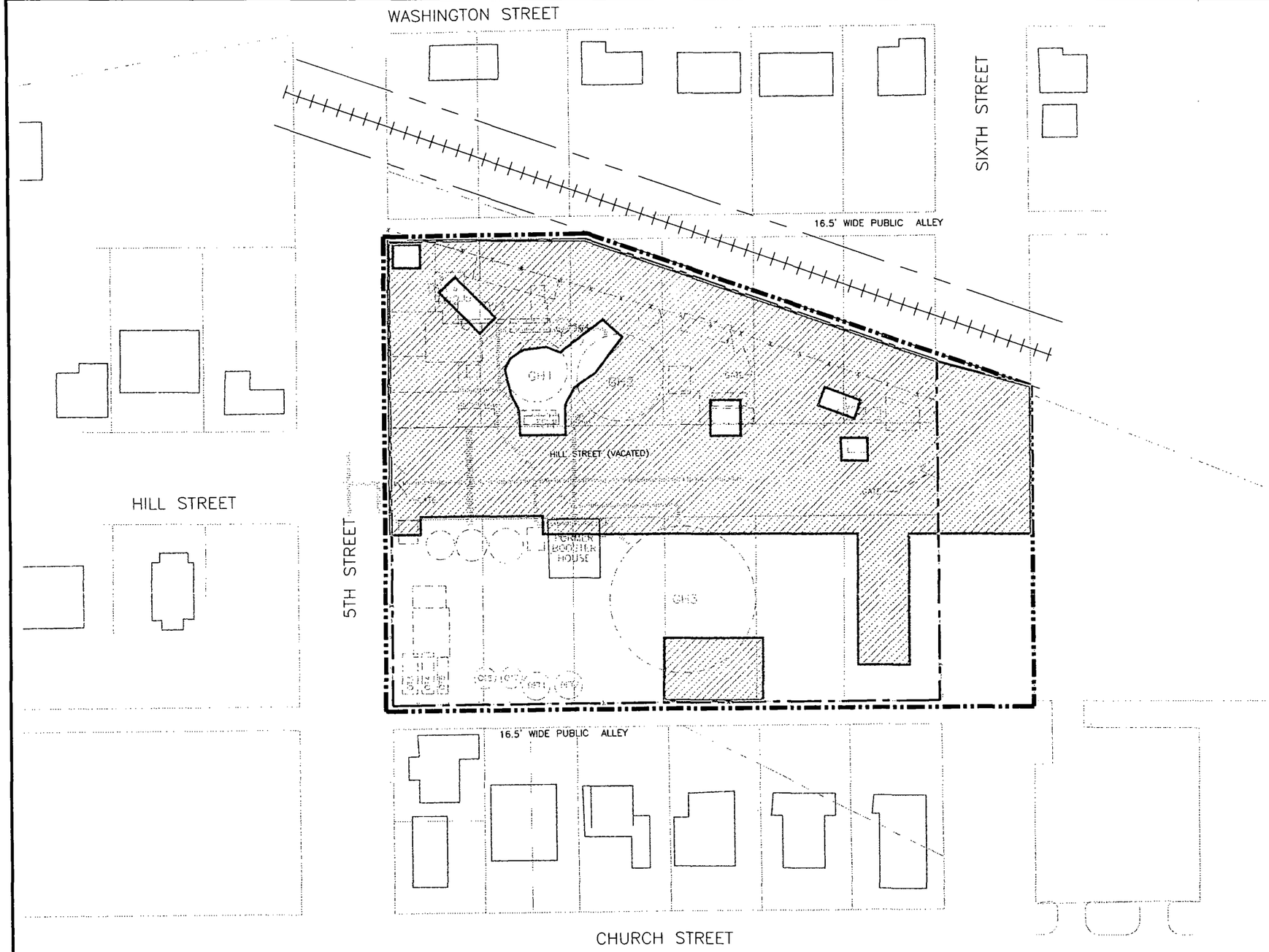
TITLE:
HORIZONTAL EXTENT OF SUBSURFACE IMPACT EXCEEDING TIER 1 REMEDIATION OBJECTIVES FOR INDOOR INHALATION EXPOSURE PATHWAY

DWN: TMM	DES: PTS	PROJECT NO: 62403053 AMERENIP CHAMPAIGN, ILLINOIS	
CHKD:	APPD:		
DATE: 12/5/08	REV:	FIGURE 2-3	

COL. J:\624\026476-016



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- SOIL COMPONENT TO GROUNDWATER INGESTION PATHWAY HORIZONTAL EXTENT EXCEEDING TIER 1 ROs

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FEET

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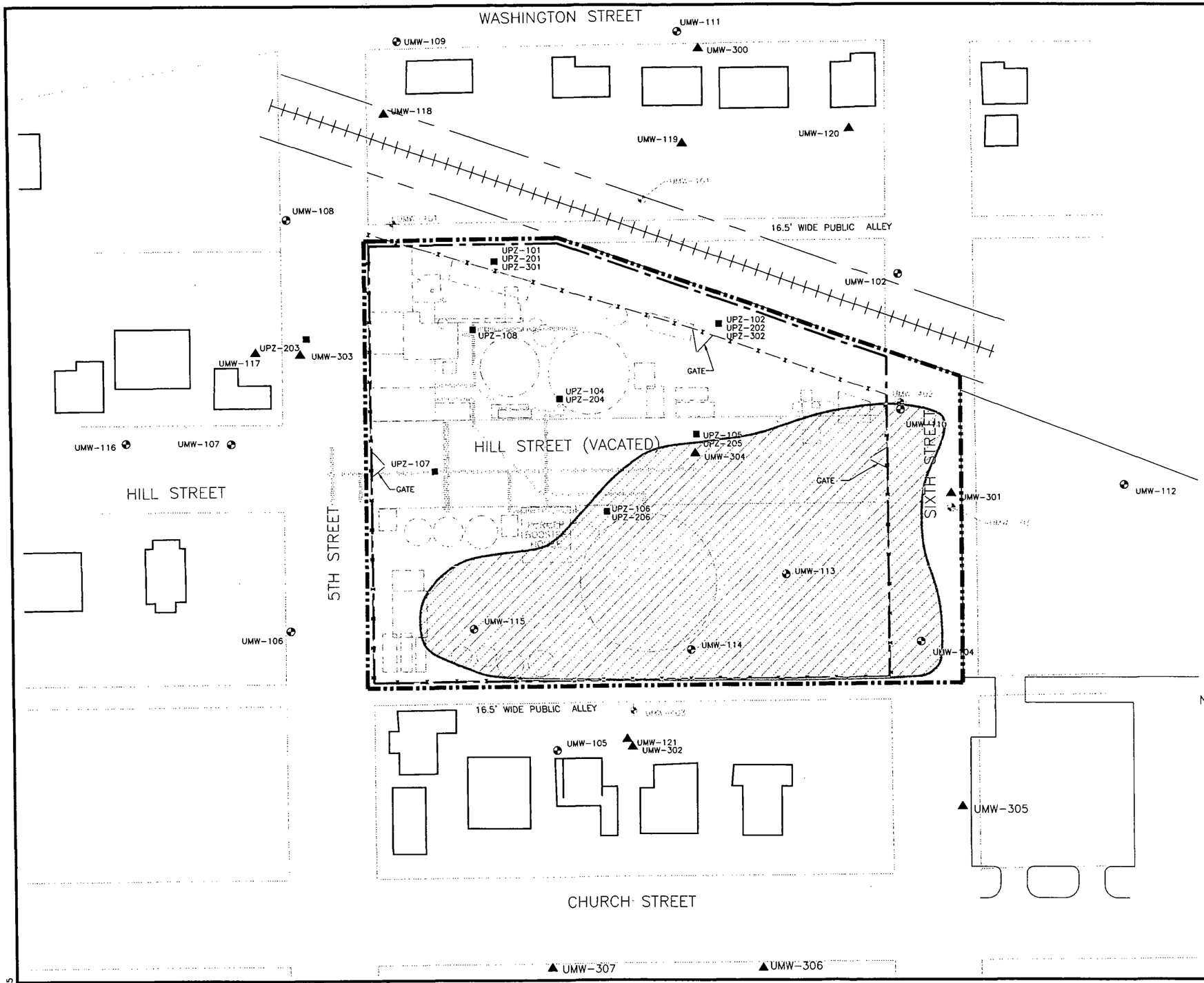
PSC

TITLE:
HORIZONTAL EXTENT OF SUBSURFACE IMPACT EXCEEDING TIER 1 REMEDIATION OBJECTIVES FOR SOIL COMPONENT TO GROUNDWATER INGESTION EXPOSURE PATHWAY

DWN: TMM	DES: PTS	PROJECT NO: 62403053
CHKD:	APPD:	AMERENIP CHAMPAIGN, ILLINOIS
DATE: 12/5/08	REV:	FIGURE 2-4



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- FENCE
- ■ UPZ-102, UPZ-202, UPZ-302 — NESTED PIEZOMETERS (SHALLOW 5' TO 10', MEDIUM 20' TO 25', AND DEEP 30' TO 35') COMPLETED IN GLACIAL TILL
- ⊕ UMW-113 — SHALLOW GROUNDWATER MONITORING WELLS (APPROXIMATELY 20') COMPLETED IN UPPER GLACIAL TILL (ACTIVELY MONITORED)
- ⊕ UMW-401 — DEEP GROUNDWATER MONITORING WELLS (APPROXIMATELY 150') COMPLETED IN GLASFORD FORMATION
- WELLS THAT HAVE BEEN ABANDONED
- ▲ UMW-118 — NEW WELL LOCATIONS (ACTIVELY MONITORED)
- GROUNDWATER HORIZONTAL EXTENT EXCEEDING TIER 1 ROs

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SOURCE: The source for the propperty boundary survey is Vegrzyn, Sarver, and Associates.

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PSC

TITLE:
EXCEEDANCE OF CLASS I GROUNDWATER STANDARDS
SEPTEMBER 2008

DWN: TMM	DES: MRC
CHKD:	APPD:
DATE: 11/17/08	REV:

PROJECT NO: 62403053
AMERENIP
CHAMPAIGN, ILLINOIS

FIGURE 2-5

COL. 624\02647B-055

TABLE 2-1
PROJECT REMEDIATION OBJECTIVES
FOR CONSTITUENTS OF CONCERN
CHAMPAIGN MGP
AMERENIP

	Tier 1 Remediation Objective									
	Ingestion			Inhalation			Indoor Inhalation		IEPA Accepted Background Levels MSA	Project Remediation Objective
	Residential	Commercial	Construction	Residential	Commercial	Construction	Residential	Commercial		
Volatile Organic Compounds (mg/kg)										
Benzene	12	100	2,300	0.80	1.6	2.2	0.069	0.51	---	0.069
Ethylbenzene	7,800	200,000	20,000	400	400	58.0	130	130	---	58
Toluene	16,000	410,000	410,000	650	650	42.0	240	240	---	42
Total Xylenes	16,000	410,000	41,000	410	320	5.6	63	100	---	5.6
Styrene	16,000	410,000	41,000	1,500	1,500	430	230	230	---	230
Acetone	7,800	200,000	200,000	100,000	100,000	10,000	100,000	100,000	---	7,800
Methylene Chloride	85	760	12,000	13	24	34	1.4	10		1.4
Semivolatile Organic Compounds (mg/kg)										
Acenaphthene	4,700	120,000	120,000	---	---	---	---	---	0.13	4,700
Acenaphthylene	2,300 (1)	61,000 (1)	61,000 (1)	---	---	---	---	---	0.07	2,300
Benzo(a)anthracene	0.9	8	170	---	---	---	---	---	1.8	2
Benzo(a)pyrene	0.09	0.8	17	---	---	---	---	---	2.1	2.1
Benzo(b)fluoranthene	0.9	8	170	---	---	---	---	---	2.1	2.1
Benzo(k)fluoranthene	9	78	1,700	---	---	---	---	---	1.7	9
Chrysene	88	780	17,000	---	---	---	---	---	2.7	88
Dibenzo(a,h)anthracene	0.09	0.8	17	---	---	---	---	---	0.42	0.42
Dibenzofuran	310 (1)	8,200 (1)	820 (1)	---	---	---	---	---	---	310
Fluorene	3,100	82,000	82,000	---	---	---	---	---	0.18	3,100
Indeno(1,2,3-cd)pyrene	0.9	8	170	---	---	---	---	---	1.6	1.6
Naphthalene	1,600	41,000	4,100	170	270	1.8	34	34	0.2	1.8
Phenanthrene	2,300 (1)	61000 (1)	61000 (1)	---	---	---	---	---	2.5	2,300
2-methylnaphthalene	2,300	61,000	61,000	---	---	---	83	83	0.14	83
Metals (mg/kg)										
Arsenic	13	13	61	750	1,200	25,000	---	---	13	13
Chromium	230	6,100	4,100	270	420	690	---	---	16.2	230
Lead	400	800	700	---	---	---	---	---	36	400
Mercury	23	610	61	10	16	0.1	0.45	0.45	0.06	0.1
Inorganics (mg/kg)										
Cyanide	1,600	41,000	4,100	---	---	---	---	---	0.51	1,600

Notes:
(1) Non-TACO or provisional RO provided by the IEPA
--- No remediation objective has been established by the IEPA for this constituent for exposure route
mg/kg Milligrams per kilogram

Executive Summary

AmerenIP is submitting this Remediation Objectives Report (ROR) for the Former Champaign Manufactured Gas Plant (MGP) site located at 308 North 5th Street in Champaign, Illinois. Site investigation activities have been performed and the results presented in the *Comprehensive Site Investigation Report, For AmerenIP Champaign, Illinois Former Manufactured Gas Plant, State ID 0190100008* (CSIR) dated December 2007 and the *Off-Site Investigation Report, Former Manufactured Gas Plant, Champaign Illinois, State ID 0190100008* (OSIR) dated August 22, 2008. Subsurface impact indicative of MGP operations was identified encompassing the entire remediation site. The subsurface impact has been delineated for the constituents of concern listed on Table ES-1.

Twenty-six constituents of concern (COC) in soil and twenty COC in groundwater have been identified. This ROR presents an evaluation of the COCs and describes the proposed exposure pathway exclusions. Ameren has elected to use a combination of soil excavation and disposal, in-situ chemical oxidation, and institutional controls to address the site impact. The remedial approach will be presented in the Remedial Action Plan (RAP). Additionally, AmerenIP has established project remediation objectives (ROs) that reflect the use of the most stringent Tier 1 ROs outlined in Illinois Administrative Code (IAC) Section 742. Tier 2 or Tier 3 evaluations may be performed following the above mentioned remediation activities as a method to address site residuals.

Upon implementation of the methods for pathway exclusion that are outlined in this ROR and in an accompanying RAP, Ameren intends to meet the requirements for a NFR letter for the remediation site.

3.3.2 Soil Attenuation Capacity

IAC Section 742.215 requires determination of soil attenuation capacity by evaluation of natural organic carbon fraction data, TPH data and/or total organic carbon concentration (OCC). During 1996 twelve soil samples were collected from four probeholes completed onsite and were analyzed for total organic carbon using Method 415.1. Probeholes were located near the four corners of the AmerenIP property. Three samples were collected from each location; one sample from the surface soil, one from the 3 to 10 foot interval, and one from below 10 feet. Table 3-20 presents analytical results for total organic carbon (TOC) adjusted as per IAC Section 742.215(b).

Table 3-20 also presents information on soil type for the various depth intervals. All samples collected from the one foot interval were described as fill material containing coal, cinders, etc.; therefore the default value of 6,000 mg/kg was used to evaluate potential source materials from the surface soil interval (i.e. 0-3'). The default value of 2,000 mg/kg was used to evaluate potential source materials below one meter.

TPH results and total organic carbon concentration for CSI samples were compared to these TOC values. Table 3-21 presents a summary of those samples and includes location, depth, and TPH results. Based on the results presented in Table 3-21, potential source materials are present on the site at depths ranging from 4 feet to 24 feet bgs. These samples tend to represent the central and north central area of the AmerenIP property. Potential source material was identified at ten locations.

3.3.3 Reactivity

Selected soil samples collected from locations within the impacted area were analyzed for reactive cyanide and sulfide. The soil samples results were compared to the requirements set within IAC Section 721.123. No exceedances were identified.

3.3.4 Soil pH

Soil pH analyses were performed at boring locations representative of Site conditions. The calculated average site pH level is 7.5 as reported in the CSIR. The soil sample results were compared to the range in IAC Section 742.305(d). The reported pH levels are within the requirements specified in IAC Section 742.305(d).

3.3.5 Characteristics of Toxicity for Hazardous Waste

Pursuant to 40 CFR Part 261 and the Federal Register (Volume 67, Number 49 for Wednesday, March 13, 2002) and IAC Section 721.124(a), toxicity characteristic leaching procedure (TCLP) does not apply for characterizing former MGP waste as hazardous; therefore, no TCLP analyses were completed during the CSI.

3.3.6 Polychlorinated Biphenyls in Soil

No historical evidence suggests or indicates that an electrical substation was present or that equipment or materials were stored at this site that would potentially contain polychlorinated biphenyls (PCBs). Additionally, groundwater samples collected and analyzed during 2008 did not detect PCBs in groundwater beneath the site.

6 PROPOSED PATHWAY EXCLUSIONS

Impact is present on the AmerenIP property that exceeds Tier 1 ROs for the soil ingestion, the soil inhalation, indoor inhalation, the soil component to groundwater ingestion, and the groundwater ingestion exposure pathways. The impact exceeds the ROs for residential property use, industrial/commercial property use, and construction worker scenarios. The following section provides a description of how the COCs for each exposure route will be addressed in order to meet the requirements for a NFR letter.

6.1 Soil Ingestion Exposure Pathway

All soil impact above the most stringent Tier 1 ROs discussed in Section 7.1 within the top 10 feet of ground surface will be addressed through soil removal and disposal. AmerenIP will then perform in-situ chemical oxidation to remediate impact deeper than 10 feet bgs that also exceeds the site remediation objectives. A Class V Injection Well Inventory Form will be submitted to the IEPA prior to the in-situ chemical oxidation activities. It is anticipated that the in-situ chemical oxidation will either completely address the impact or significantly reduce impact levels. If impact above the project ROs remains after completion of removal activities and in-situ chemical oxidation, AmerenIP will use the 10 feet of clean back fill material as an engineered barrier to exclude this pathway. A full description and discussion of the excavation areas and the in-situ chemical oxidation method will be provided in the RAP.

6.2 Soil Inhalation Exposure Pathway

All soil impact above the most stringent Tier 1 ROs discussed in Section 7.1 within the top 10 feet of ground surface will be addressed through soil removal and disposal. AmerenIP will then perform in-situ chemical oxidation to remediate impact deeper than 10 feet bgs that also exceeds the site remediation objectives. A Class V Injection Well Inventory Form will be submitted to the IEPA prior to the in-situ chemical oxidation activities. It is anticipated that the in-situ chemical oxidation will either completely address the impact or significantly reduce impact levels. If impact above the project ROs remains after completion of removal activities and in-situ chemical oxidation, AmerenIP will use the 10 feet of clean back fill material as an engineered barrier to exclude this pathway. A full description and discussion of the excavation areas and the in-situ chemical oxidation method will be provided in the RAP.

6.3 Indoor Inhalation Exposure Pathway

All soil impact above the most stringent Tier 1 ROs discussed in Section 7.1 within the top 10 feet of ground surface will be addressed through soil removal and disposal. AmerenIP will then perform in-situ chemical oxidation to remediate impact deeper than 10 feet bgs that also exceeds the site remediation objectives. A Class V Injection Well Inventory Form will be submitted to the IEPA prior to the in-situ chemical oxidation activities. It is anticipated that the in-situ chemical oxidation will either completely address the impact or significantly

List of Tables

TABLE 3-21
SOIL ATTENUATION SOURCE EVALUATION
CHAMPAIGN MGP SITE
CHAMPAIGN, ILLINOIS
AMERENIP

Location	Depth (Feet)	TPH (mg/kg)	TOC[1]	TOC
B-504-3	2-3	19,920	12.16	6000[2]
TP-503-3	3	24,730	2,063.43	6000[2]
TP-504-3	3	6,690	541.57	6000[2]
TP-507-3.5	3.5	12,510	1,001.65	2,000[2]
TP-508-4	4	28,610	3,011.84	2,000[2]
B-516-5	4-5	5,410	145.95	2,000[2]
B-505-6	5-6	31,110	6,106.50	2,000[2]
B-553-6	5-6	---	3,360.16	2,000[2]
B-504-7	6-7	---	7,371.70	2,000[2]
B-515-7	6-7	---	2,233.98	2,000[2]
TP-501-7	7	2,185	201.04	2,000[2]
B-506-17	16-17	12,900	6,157.14	2,000[2]
B-514-17	16-17	60,700	18,488.50	2,000[2]
B-554-18	17-18	6,670	3,225.12	2,000[2]
B-507-19	18-19	23,200	16,493.90	2,000[2]
B-504-21	20-21	11,040	1,700.42	2,000[2]
B-553-24	23-24	49,310	5,065.50	2,000[2]

Notes:
TPH - Total petroleum hydrocarbons
mg/kg - milligrams per kilogram
[1] Sum of BTEX (8260B), PAHs (8270SIMS), VOCs (8260B) and SVOCs (8270C)
--- Analysis not performed on this sample.
[2] - Default value from IAC 742.215(b)(1)(A)